PFD/MFD – SELECT OVERLAYS

RATIONALE:

The different overlays that can show on the PFD and the MFD assist the pilot in scanning for weather and lightning and provide a graphical representation of nearby terrain to increase terrain awareness.

SUMMARY:

The PFD and MFD both have display overlays that the pilot can use for weather and terrain avoidance. Data generated by the weather radar system and the optional Terrain Awareness Warning System (TAWS) can show in a full-color weather radar or terrain display when the PFD or MFD is in a compatible display format.

PRECONDITIONS:

The PFD or MFD must be in an overlay compatible format (Arc or PPOS Map). If the PFD or MFD is not in the compatible format, the Overlay LSK is not active. A cyan carat (>) shows next to the UP LSK, DOWN LSK, and SELECT LSK to indicate that the LSK is active.

RULES:

- The Heading Arc and PPOS Map formats are the only compatible formats for the weather radar, optional lightning detection, and optional terrain overlays.
- Terrain data and weather radar/lightning returns cannot show at the same time on a single display. Either manual or automatic selection of terrain data for display will automatically deselect the weather radar and/or lightning overlays. Similarly, selection of either the weather radar or weather radar/lightning overlays will deselect the terrain overlay.

▼ CHECKLIST:

1	If no overlay is in view on the display, push the overlay LSK to set display overlays to on and off in the order that follows:

MFD – GS/TAS/AIR TEMPS

Figure 5-24 MFD GS/TAS/Air Temp Displays

TPJ7215_01

Ground Speed (GS), True Airspeed (TAS), Gross Weight (GW), Fuel Remaining (FR), Static Air Temperature (SAT), and International Standard Atmosphere (ISA) Delta show along the bottom of the MFD.

▼ SELECTIONS:

GS	GS in knots shows along the bottom of the MFD. The GS readout is preceded by a grey GS legend. The source of GS data is the on-side FMS unless the cross-side FMS is selected as the active NAV source for the on-side PFD. When only a single FMS is installed, that FMS is the source of GS data. The color of the GS readout is green or magenta if from the on-side FMS and yellow if from the cross-side FMS.
TAS	TAS in knots shows in white along the bottom of the MFD preceded by a grey TAS legend. The source of TAS data is the currently-selected ADC.
GW	The GW readout shows in white along the bottom the MFD. The gross weight is from the Rockwell Collins FMS. The readout is updated as fuel is consumed. Refer to separate FMS document for details. Gross Weight does not show on the TCAS, GWX, or Video page.

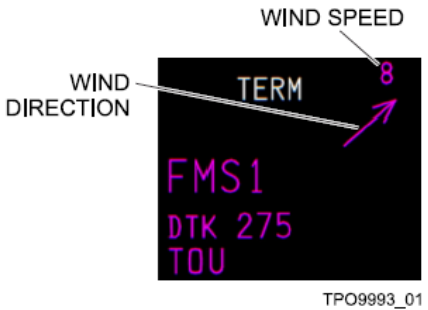
A magenta CDI RVSL annunciation shows near the ADI lateral deviation scale when the active NAV source is FMS and the ADI lateral deviation scale is displayed and the FMS course (desired track) is pointing to the bottom half of the HSI compass.

NOTE

The FROM and CDI RVSL annunciations are not shown on all aircraft versions.

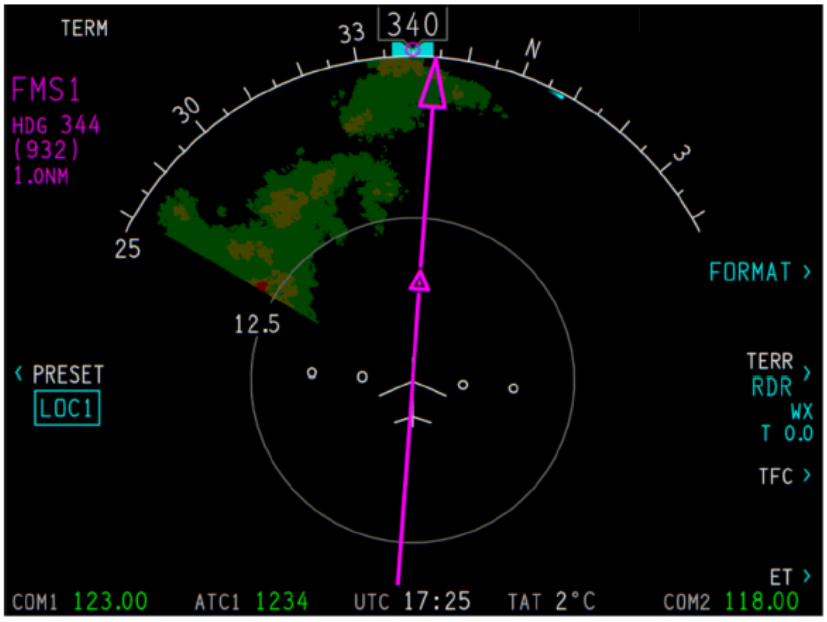
Wind Speed and Direction

Wind speed and direction shows full time to the left of the heading readout on the PFD. Wind speed and direction shows to the left of the heading readout on the MFD Rose, Arc, and PPOS Map formats. The wind direction arrow represents the wind direction relative to the aircraft (the arrow points in the direction the wind is blowing to). The color of the wind speed and direction display is green or magenta if from the on-side FMS and yellow if from the cross-side FMS. Wind speed and direction are sourced from the on-side FMS unless the cross-side FMS is the active NAV source, then the cross-side FMS is the source. On the MFD, when Map is active the wind speed source is the FMS Map source.



PFD/MFD – WEATHER RADAR OVERLAY

Figure 5-31 PFD & MFD Weather Radar Overlay



TPJ7221_01

The Weather Radar (WXR) system detects and locates precipitation for the purpose of navigating around weather hazards. The optional Turbulence Weather Radar (TWR) System detects and locates precipitation and precipitation-related turbulence targets. The weather radar will indicate the bearing, range, and precipitation rate of all detectable precipitation within the scan area and display range. Ground mapping returns can also show. The system functions like two independent radars. Each pilots display is controlled by the on-side DCP/PFD and is updated on alternate sweeps of the antenna. The weather radar overlay is available for display on the PFD and on the MFD when the Arc or PPOS Map formats are being displayed. The PFD and MFD contain the RDR LSK to select the weather radar overlay. The DCP provide the controls for radar mode menu selection, range selection, antenna tilt angle, auto tilt (optional), and Ground Clutter Suppression (GCS).